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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/620,053	07/20/2000	Yang Cao	129250-000971/US	3581

32498 7590 04/11/2007
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EXAMINER

MOORE, IAN N

ART UNIT	PAPER NUMBER
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2616

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
2 MONTHS	04/11/2007	PAPER

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/620,053

Filing Date: July 20, 2000

Appellant(s): CAO, YANG

John E. Curtin
For Appellant

EXAMINER'S ANSWER

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This is in response to the corrected appeal brief filed 12/15/06 appealing from the Office action mailed 2/23/06.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

US006865179B1	CHANG ET AL.	12-2003
US006330239B1	SUZUKI	12-2001
US005920412A	CHANG	7-1999
US006657757B1	CHANG	12-2003
US005570355A	DIAL ET AL.	10-1996
US006574224B1	BRUECKHEIMER ET AL.	6-2003
US005982771A	CALDARA ET AL.	11-1999
US005832197A	HOUJI	11-1998
US006317426B1	AFANADOR ET AL.	11-2001
US006381238B1	HLUCHYJ	4-2002

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686

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F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1,4, 12,15,28 and 33 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 16, 28, and 35 of U.S. Patent No. 6,865,179 in view of Suzuki (US006330239B1).

Claims 1,4,12,15,28 and 33 of the instant application is the same scope of the claim 1, 16, 28, and 35 of the Patent (US 6,865,179 to Cao) by replacing ATM traffic with IP traffic, and eliminating provisioning resources step. However, routing IP traffic over ATM traffic or replacing ATM traffic with IP traffic is well known in the art. In particular, Suzuki discloses such limitation in FIG. 9-11; see col. 8, line 6 to col. 9, line 43. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide routing of IP traffic over ATM traffic or replacing ATM traffic with IP traffic, as taught by Suzuki in the art in the system of Cao, so that it would provide an exchange apparatus that securely converts an address with a small amount of information and assures and expands services; see Suzuki col. 2, line 64-67.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang'412 (US005920412A) in view of Chang'757 (US006657757B1).

Regarding Claims 1 and 12, Chang'412 discloses a hybrid telecommunication switch comprising at least one circuit switch fabric (see FIG. 4, optical network routing apparatus, ONRA 14d) comprising:

at least one circuit switch fabric (see FIG. 4, STM ADM 28; see col. 9, lines 16-22);
at least one packet switch fabric (see FIG. 4, ATM ADM 32; see col. 9, lines 15-25); and
a controller (see FIG. 4, Type check 24; see col. 11, line 46-50; see col. 12, line 15-22) route traffic (see col. 11, line 1-16; signals/traffic) to the circuit switch fabric or packet switch fabric depending on an ATM service category/type of traffic (see FIG. 5, step 50, 52 and 56; note that ATM service category/type are defined as real time or non-real time signals; and thus, when routing according to ATM service category one must route by determining whether the service signals are real-time or non-real time signals. Thus, routing to either STM/TDM or ATM ADMs according to type of service as STM real time signals/traffic or ATM real/non-real time signals/traffic; see col. 12, line 9-46; see col. 15, line 25-52).

Chang'412 does not explicitly disclose IP traffic. However, it is well known in the art that IP traffic can be transported over STM/SONET/SDH, and IP traffic can also be transported over ATM. Chang'757 teaches IP traffic/router 112 is coupled to ATM/SONET system 131 (see FIG. 1, see col. 9, line 1-5). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide routing IP traffic over ATM/SONET system, as

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taught by Chang'757 in the system of Chang'412, so that it would combine the advantages of circuit-switching and packet-switching IP technologies; and it will also provide low latency, high throughput, and cost-effective bandwidth-on demand; see Chang'757 col. 9, line 1920-22; see col. 8, line 35-39.

5. Claims 2, 3, 7, 13, 14, 28 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang'412 in view of Chang'757, and further in view of Dail (US005570355A).

Regarding Claims 2, 3, 7, 13, 14, 18, 28 and 33, Chang'412 discloses a hybrid telecommunication switch comprising at least one circuit switch fabric (see FIG. 4, optical network routing apparatus, ONRA 14d) comprising:

- at least one circuit switch fabric (see FIG. 4, STM ADM 28; see col. 9, lines 16-22);
- at least one packet switch fabric (see FIG. 4, ATM ADM 32; see col. 9, lines 15-25); and
- a controller (see FIG. 4, Type check 24; see col. 11, line 46-50; see col. 12, line 15-22) route traffic (see col. 11, line 1-16; signals/traffic) to the circuit switch fabric or packet switch fabric depending on an ATM service category/type of traffic (see FIG. 5, step 50, 52 and 56; note that ATM service category/type are defined as real time or non-real time signals; and thus, when routing according to ATM service category one must route by determining whether the service signals are real-time or non-real time signals. Thus, routing to either STM/TDM or ATM ADMs according to type of service as STM real time signals/traffic or ATM real/non-real time signals/traffic; see col. 12, line 9-46; see col. 15, line 25-52);

Chang'412 does not explicitly disclose IP traffic. However, it is well known in the art that IP traffic can be transported over STM/SONET/SDH, and IP traffic can also be transported over

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ATM. Chang'757 teaches IP traffic/router 112 is coupled to ATM/SONET system 131 (see FIG. 1, see col. 9, line 1-5). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide routing IP traffic over ATM/SONET system, as taught by Chang'757 in the system of Chang'412, so that it would combine the advantages of circuit-switching and packet-switching IP technologies; and it will also provide low latency, high throughput, and cost-effective bandwidth-on demand; see Chang'757 col. 9, line 1920-22; see col. 8, line 35-39.

Neither Chang'412 nor Chang'757 explicitly disclose allocate switch fabric to traffic falling within an ATM service category; and allocate available switch resources, as indicated by a resource table, to received traffic request. However, Dail discloses allocate switch fabric to traffic falling within an ATM service category, or provisioning a portion of the switch resources for circuit switch traffic (see FIG. 11, bandwidth controller 435 allocates STM or ATM/CBR calls in 1112; see col. 16, line 35-57; also see FIG. 7); and

allocate available switch resources, as indicated by a resource table, to received traffic request, or allocate the remaining portion of the switch resources to non-STM traffic as a controller route traffic to the switch fabric (see FIG. 11, allocates ATM/VBR calls in 1101 and 1102; see col. 16, line 35-57; also see FIG. 13-14; see col. 17, line 25 to col. 18, line 34; note that buffer maintains table/registers for allocation; also see FIG. 7, dynamic mark between STM and ATM bandwidth).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide allocation circuit switching, as taught by Dail, in the combined system of Chang'412 and Chang'757, so that it would adapt to the changing demands

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of a mix of STM and ATM applications, and efficiently allocates bandwidth; see Dail col. 2, line 53-66.

6. Claim 4-6 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang'412 in view of Chang'757 and Dail as applied to claim 2 above, and further in view of Brueckheimer (US006574224B1).

Regarding Claims 4 and 15, the combined system of Chang'412, Chang'757 and Dail discloses routing IP traffic associated with a ATM service category to the circuit switch fabric (see Chang'412 FIG. 5, step 50,52 and 56; routing to STM ADM according to STM real time signals/traffic (i.e. ATM service category); see col. 12, line 9-46; see col. 15, line 25-52).

Neither Chang'412 nor Chang'757 explicitly disclose constant bit rate (CBR). However, CBR is well known in the art for classifying real time application such as voice and video. In particular, Brueckheimer discloses routing traffic associated with a ATM service category to the circuit switch fabric (see FIG. 1, AAL 1 traffic/data in Voice Switch 25; FIG. 14, voice AAL 1 in AAL/IP interworking module; or FIG. 7, voice AAL 1 in VoIP AAL interworking module; see col. 6, lines 47-65; note that traffic/data is related/associated with AAL 1 (i.e. CBR category) and routed toward the voice switch/AAL/IP interworking module).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide switching AAL 1 to voice switch, as taught by Brueckheimer, in the combined system of Chang'412 and Chang'757, so that it would provide a functional partitioning of devices that is an optimal separation of concerns for traffic management,

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quality of service (QoS) controls, buffer depth scaling and low latency; see Brueckheimer col. 3, line 10-33.

Regarding Claims 5 and 16, the combined system of Chang'412 and Chang'757 discloses routing IP traffic associated with a real time ATM service category to the circuit switch fabric (see Chang'412 FIG. 5, step 50,52 and 56; routing to STM ADM according to STM real time signals/traffic (i.e. ATM service category); see col. 12, line 9-46; see col. 15, line 25-52).

Neither Chang'412 nor Chang'757 explicitly disclose variable bit rate (VBR). However, rt-VBR is well known in the art for classifying real time application. In particular, Brueckheimer discloses routing traffic associated with a rt-VBR ATM service category to the circuit switch fabric (see FIG. 1, AAL 2 traffic/data in Voice Switch 25; FIG. 14, voice AAL 2 in AAL/IP interworking module; or FIG. 7, voice AAL 2 in VoIP AAL interworking module; see col. 6, lines 47-65; note that traffic/data is related/associated with AAL 2 (i.e. real time VBR category) and routed toward the voice switch/AAL/IP interworking module).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide switching AAL 2 to voice switch, as taught by Brueckheimer, in the combined system of Chang'412 and Chang'757, for the as motivation as stated above in claim 4.

Regarding Claim 6 and 17, the combined system of Chang'412 and Chang'757 discloses routing IP traffic associated with a non-real time ATM service category to the packet switch fabric (see Chang'412 FIG. 5, step 50,52 and 56; routing to ATM ADM according to ATM non-real time signals/traffic (i.e. ATM service category); see col. 12, line 9-46; see col. 15, line 25-52).

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Neither Chang'412 nor Chang'757 explicitly disclose traffic not associated with CBR or rt-VBR ATM. However, rt-VBR is well known in the art for classifying real time application. In particular, Brueckheimer discloses routing traffic associated with a rt-VBR ATM service category to the packet switch fabric (see FIG. 1, AAL 5 traffic/data in Data/Packet Switch 26; FIG. 14, AAL 5 in AAL/IP interworking module; or FIG. 7, AAL 5 in VoIP AAL interworking module; see col. 6, lines 47-65; note that traffic/data is related/associated with AAL 5 (i.e. neither CBR nor real time VBR category) and routed toward the data switch/AAL/IP interworking module).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide switching AAL 5 to packet switch, as taught by Brueckheimer, in the combined system of Chang'412 and Chang'757, for the as motivation as stated above in claim 4.

7. Claims 8, 19, 29 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang'412 in view of Chang'757 and Dail, as applied to claims 3, 13, 28, and 33 above, and further in view of Caldara (U.S. 5,982,771).

Regarding claims 8, 19, 29 and 34, the combined system of Chang'412, Chang'757 and Dail discloses the controller maintain a circuit switch resource table as described above in claims 3, 13, 28, and 33.

Neither Chang'412, Chang'757 nor Dail explicitly discloses egress resource table. However, the above-mentioned claimed limitations are taught by Caldara'771. In particular, Caldara'771 teaches controller (see FIG. 1, Bandwidth Arbiter 12) maintains switch ingress (see

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FIG. 1, a combined system of memory/RAM/resource table 21,20,23 in Input port 14) and egress resource table (see FIG. 1, a combined system of memory/RAM/resource table 48,42,44,46 in Output port 16); see col. 5, lines 10 to col. 6, lines 35).

In view of this, having the combined system of Chang'412, Chang'757 and Dail, then given the teaching of Caldara, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined system of Chang'412, Chang'757 and Dail, by providing output memory resource table in order to control bandwidth allocation, as taught by Caldara. The motivation to combine is to obtain the advantages/benefits taught by Caldara since Caldara states at col. 1, line 50 to col. 4, lines 25 that such modification would efficiently allocates the available bandwidth while assuring that minimum bandwidth and delay requirement of connects are satisfied.

8. Claims 9, 20-22, 25-27, 30, 35-37 and 40-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang'412, Chang'757 and Dail, as applied to claims 3, 13, 28, and 33 above, and further in view of Houji (U.S. 5,832,197).

Regarding claims 9, 20-22, 25-27, 30, 35-37, and 40-42 the combined system of Chang'412, Chang'757 and Dail discloses all aspects of the claimed invention set forth in the rejection of claims 3, 13, 28, and 33 as described above.

Neither Chang'412, Chang'757 nor Dail explicitly discloses pass a traffic request to a destination node and to establish an traffic path after having determined that all nodes along the proposed path have accepted/allocated an traffic request.

However, the above-mentioned claimed limitations are taught by Houji'197. In particular, Houji'197 teaches pass an traffic request (see FIG. 1, Node N1; also see FIG. 2, step 20,

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connection request process and pass by Node N1) to a destination node (see FIG. 1, destination Node N5; see FIG. 2, to destination node, step 23) and to establish an traffic path (see FIG. 1, a path between N1 and N5; see FIG. 2, establishing the path, step 23-26) after having determined that all nodes (see FIG. 1, Nodes N2-N4, N7) along the proposed path (see FIG. 1, the lowest QoS path between N1 and N5; see FIG. 2, step 21) have accepted an traffic request (see FIG. 2, steps 23-26; accept request); see col. 2, lines 45 to col. 3, lines 27).

In view of this, having the combined system of Chang'412, Chang'757 and Dail, then given the teaching of Houji'197, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined system of Chang'412, Chang'757 and Dail, by providing establishing end-to-end path between source and destination node upon accepting the connection request by the nodes along the path, as taught by Houji'197. The motivation to combine is to obtain the advantages/benefits taught by Houji'197 since a2 states at col. 1, line 30 to col. 2, lines 2315 that such modification would provide an alternate routing in a connection-oriented network in which a plurality of nodes are interconnected by the communication links.

9. Claims 10, 23, 31, 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang'412, Chang'757, Dail, Houji, as applied to claims 3, 13, 28, and 33 above, and further in view of Brueckheimer.

Regarding Claim 10, 23, 31 and 38, the combined system of Chang'412, Chang'757, Dail and Houji discloses IP switch fabric, wherein the IP switch fabric is one kind of packet switched fabric, and routing IP traffic associated with a real time ATM service category to the

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circuit switch fabric (see Chang'412 FIG. 5, step 50, 52 and 56; routing to STM ADM according to STM real time signals/traffic (i.e. ATM service category); see col. 12, line 9-46; see col. 15, line 25-52).

Neither Chang'412, Chang'757, Dail nor Houji explicitly disclose variable bit rate (VBR). However, rt-VBR is well known in the art for classifying real time application. In particular, Brueckheimer discloses routing traffic associated with a rt-VBR ATM service category to the circuit switch fabric (see FIG. 1, AAL 2 traffic/data in Voice Switch 25; FIG. 14, voice AAL 2 in AAL/IP interworking module; or FIG. 7, voice AAL 2 in VoIP AAL interworking module; see col. 6, lines 47-65; note that traffic/data is related/associated with AAL 2 (i.e. real time VBR category) and routed toward the voice switch/AAL/IP interworking module).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide switching AAL 2 to voice switch, as taught by Brueckheimer, in the combined system of Chang'412, Chang'757, Dail and Houji, for the as motivation as stated above in claim 4 and 29.

(10) Response to Argument

I. The double patenting rejections: Claims 1, 4, 12, 15, 28 and 33

The appellant argued that, "...claims 1,4,12,15,28 and 33 are not the same scope as claims in the '179 patent...the appellants have previously pointed out that ATM may be used to transmit information that may be formatted in any number of ways, not just IP..." in pages 5-6, paragraph B (i).

In response to appellant's argument, the examiner respectfully disagrees with the argument above.

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First, the obvious type double patenting rejection is based upon a combined system of Cao (US006865179B1) and Suzuki (US006330239B1). One must consider the combined system of Cao and Suzuki as a whole, rather than individually as incorrectly stated by appellant above.

Second, It is well known and established in the art that IP traffic data can be encapsulated within ATM cells such as IP over ATM (i.e. routing IP traffic over ATM traffic) or replacing ATM traffic with IP traffic. Even appellant admitted this fact on the record by stating “**ATM may be used to transmit information that may be formatted in any number of ways, not just IP**”. Thus, in view of appellant admitted statement, teaching of Suzuki (see paragraph below) and examiner assertion above, ATM is used to transmit information that are formatted in any number of ways “including IP formats” is well known and established in the art.

Third, Cao’s claim 1 discloses “... *a controller configured to separate telecommunications traffic received at the hybrid switch, including asynchronous transfer mode (ATM) traffic characterized by at least one service category, and to direct traffic to either a circuit or packet switch fabric...*” in line 1-4. It is well known in the art that IP traffic data can be encapsulated within ATM cells such as IP over ATM. Suzuki discloses the carrying IP traffic over ATM (see FIG. 9-11; see col. 8, line 6 to col. 9, line 43).

Thus, it is clear that combined system of Cao and Suzuki discloses same scope as appellant claims 1,4,12,15,28 and 33.

The appellant argued that, “...Suzuki does not disclose or suggest the routing of IP formatted traffic using ATM service categories... Rather than disclose or suggest the routing of IP traffic based on ATM service categories, Suzuki appears to just disclose the known encapsulation of IP traffic and the use of ATM transmission scheme. Again, while it may be true

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that encapsulating IP traffic within ATM was known by those skilled in the art...the routing of IP traffic to one of two different switch fabrics based on ATM service levels, a feature that is not disclosed in, nor suggested by, Suzuki..." in pages 6-7, paragraph B (ii).

In response to appellant's argument, the examiner respectfully disagrees with the argument above.

Again, the obvious type double patenting rejection is based upon a combined system of Cao (US006865179B1) and Suzuki (US006330239B1), rather than individually as incorrectly stated by appellant above.

Cao claim 1 discloses "... *a controller configured to separate telecommunications traffic received at the hybrid switch, including asynchronous transfer mode (ATM) traffic characterized by at least one service category, and to direct traffic to either a circuit or packet switch fabric...*" in line 1-4. Thus, it is clear that Cao discloses the routing/directing of ATM traffic to one of two different switch fabrics based on ATM service levels/category.

It is well known and established in the art that IP traffic data can be encapsulated within ATM cells such as IP over ATM (i.e. routing IP traffic over ATM traffic) or replacing ATM traffic with IP traffic is well known in the art. Suzuki discloses the carrying IP traffic over ATM (see FIG. 9-11; see col. 8, line 6 to col. 9, line 43). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide routing of IP traffic over ATM traffic or replacing ATM traffic with IP traffic, as taught by Suzuki in the art in the system of Cao, so that it would provide an exchange apparatus that securely converts an address with a small amount of information and assures and expands services; see Suzuki col. 2, line 64-

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67. Thus, it is clear that the combined system of Cao and Suzuki discloses the appellant claimed invention.

Examiner also acknowledges the appellant admits on the record by stating “*Suzuki appears to just disclose the known encapsulation of IP traffic and the use of ATM transmission scheme. Again, while it may be true that encapsulating IP traffic within ATM was known by those skilled in the art”.* Thus, in view of appellant admitted statement and examiner assertion above, teaching of Suzuki, and encapsulation of IP traffic within ATM and the use of ATM transmission scheme are well known and established in the art.

II. Rejections under Chang'412 and the other references: Claims 1-10,12-23,25-31,33-38,40-42

The appellant argued that, “...Chang'412 fails to teach or suggest: (i) the routing of IP traffic of IP traffic based on a ATM service category; (ii) at least one circuit switch and packet switch fabric making up a (iii) hybrid telecommunication switch... “Type check 24” disclosed in Chang'412...without taking into consideration the ATM service level of any of the traffic...Chang'412 does not include the routing of IP traffic based on an ATM service category as recited in claims...” in pages 7-8, paragraph C (i).

In response to appellant’s argument, the examiner respectfully disagrees with the argument above.

1) The rejection is based upon a combined system of Chang'412 (US005920412A) and Chang'757 (US006657757B1). One must consider the combined system of Chang'412 and Chang'757 as a whole, rather than individually as incorrectly stated by appellant above. One

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cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

2) Chang'412 discloses a hybrid telecommunication switch comprising at least one circuit switch fabric (see **FIG. 4, optical network routing apparatus, ONRA 14d**) comprising:

at least one circuit switch fabric (see **FIG. 4, STM ADM 28; see col. 9, lines 16-22**);

at least one packet switch fabric (see **FIG. 4, ATM ADM 32; see col. 9, lines 15-25**);

and

a controller (see **FIG. 4, Type check 24; see col. 11, line 46-50; see col. 12, line 15-22**) route traffic (see **col. 11, line 1-16; signals/traffic**) to the circuit switch fabric or packet switch fabric depending on an ATM service category/type of traffic (see **FIG. 5, step 50,52 and 56; note that ATM service category/type are defined as real time or non-real time signals; and thus, when routing according to ATM service category one must route by determining whether the service signals are real-time or non-real time signals. Thus, routing to either STM/TDM or ATM ADMs according to type of service as STM real time signals/traffic or ATM real/non-real time signals/traffic; see col. 12, line 9-46; see col. 15, line 25-52**).

It is well known in the art that IP traffic can be transported over STM/SONET/SDH, and IP traffic can also be transported over ATM. Chang'757 teaches IP traffic/router 112 is coupled to ATM/SONET system 131 (see **FIG. 1, see col. 9, line 1-5**). Thus, it is clear that the combined system of Chang'412 and Chang'757 discloses the claimed invention.

3) In response to appellant's argument that the references fail to show certain features of appellant's invention, it is noted that the features upon which appellant relies (i.e., **what are**

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ATM service category of the IP traffic, or what constitute ATM service category of the IP traffic) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Appellant does not specifically claimed (in claim 1, 12, 28 and 33) what are “**ATM service category of the IP traffic**”, or what constitute “**ATM service category of the IP traffic**”.

4) Regarding appellant's argument on type check 24, Chang'412 discloses as follows:

The general function of type check 24 is to categorize the demultiplexed signals as non-local signals or as local signals, and then **to categorize the local signals as either synchronous transfer mode (STM) signals or as asynchronous transfer mode (ATM) signals**. "Non-local signals" are signals that are not destined for a local switch associated with optical network routing agent 14d such as an associated ATM switch 10 or an STM switch 20. "Local signals" are signals that are destined for a local switch. Type check 24 categorizes the demultiplexed signals based on the wavelength associated with each group of the demultiplexed signals. (Emphasis added) see col. 12, line 10-36

If type check 24 categorizes a group of signals as local signals, then type check 24 transmits the local signals to a local switch such as associated ATM switch 10 or STM switch 20. From the local switch, the signals are further routed to their respective destinations. In the preferred embodiment, **type check 24 further reviews local signals to determine whether the local signals are STM signals or are ATM signals**. As with the local/non-local categorization, the categorization of the local signals as STM or ATM signals is based on the wavelength of the optical carrier associated with the signals. As also with the local/non-local categorization, type check 24 may "know" that a particular group of signals comprise ATM or STM signals based on the port on which these signals were received. (Emphasis added) see col. 13, line 41-50

Thus, in view of the above Chang'412's type check 24 is configured to route/direct traffic to STM (i.e. circuit switch fabric) or ATM (i.e. packet switch fabric) depending on ATM service category/type of traffic.

Moreover, Chang'412 FIG. 5, step 50 clearly shows determining whether to route the traffic to ATM or STM. Examiner asserts “ATM service categories”, in accordance with well establish teaching in art, as “real time signal” and “non-real time signal” services categories (see

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cited reference below). It is also well establish teaching in art that STM (Synchronous Transfer Mode) or TDM (Time Division Multiplexing) switching primarily switches the real time signal, and ATM (Asynchronous Transfer Mode) switching primarily switches the non-real time signals (see cited reference below). Thus, when determining whether to switch to ATM or STM, it is actually determining signals whether they are real time or non-real time signal, and routing the signal to either STM or ATM accordingly.

The following prior art references disclose STM and ATM and their corresponding “ATM service category”, and routing signal to either STM or ATM accordingly.

Dial (US005570355A)- STM traffic is real-time traffic (e.g. voice, narrow band ISDN, or video), and ATM traffic is non-real time traffic (e.g. delay sensitive VBR); see FIG. 11, see col. 7, line 40-65; see col. 16, line 34-57.

Hluchy (US006381238B1)- signal processing servers 2 switching ATM traffic (which has service categories, e.g. CBR, VBR, rt-VBR, nrt-VBR) to circuit switch fabric 26 or packet switch fabric 23. See col. 1, line 10 to col. 2, line 11.

Afanador (US006317426B1)- STM protocol, a given user receives time slices, which are at predetermined period time (i.e. real time). In contrast, under ATM protocol, a given user receives time slices at non-periodic times, which may be variable or random (i.e. non-real time); see col. 3, line 25-36.

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The appellant argued that, “...ONRA is a router, not a switch...Chang'412 does not disclose a hybrid telecommunications switch as recited in the claims...” in page 7, paragraph C (i).

In response to appellant’s argument, the examiner respectfully disagrees with the argument above.

1) Examiner finds no difference between appellant’s **hybrid communication switch** and Chang'412’s **ONRA router** since ONRA has **an identical capability and functionality** of switching or routing traffic between two fiber connections 16d and 16c (see Chang'412 FIG. 2 and 4). Chang'412 discloses a router/switch that is capable of switching/routing both STM traffic and ATM traffic, and thus it is hybrid STM-ATM communication router/switch. It is clear from the argument that appellant is arguing the broad “word” (i.e. switch vs. router) while totally ignoring the identical functionality and capability associated with the word.

2) Moreover, examiner does not even require to give **a hybrid telecommunications switch** patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

The appellant argued that, "...Examiner appears to equate the STM and STM add/drop multiplexers (ADMs) 28 and 32 of Chang'412 with the claimed circuit switch and packet switch fabrics. This too is inaccurate. An ADM is not a switch..." in page 22, paragraph C (i).

In response to appellant's argument, the examiner respectfully disagrees with the argument above.

"Switch fabric" is a broad term that covers everything that performs switching/routing. In this case, STM (Synchronous Transfer Mode) ADM 28 is performing switching/routing of circuit/synchronously switch traffic, and thus examiner equates Chang'412 STM ADM as appellant's "circuit switch fabric". Likewise, ATM (Asynchronous Transfer Mode) ADM 32 is performing switching/routing of packet/cell/asynchronously switch traffic, and thus examiner equates ATM ADM as appellant's "packet switch fabric". Chang'412's STM ADM 28 switches signals/traffic 27 (Input) and signals/traffic 29 (output) (see FIG. 4) and ATM ADM 32 is also switches signals/traffic 31 (input) and signals/traffic 33 (output).

Thus, Examiner finds no difference between appellant's **switching fabrics** and Chang'412's ADMs since ADM has **an identical capability and functionality** of switching or routing traffic between input and output signals. It is clear from the argument that appellant is arguing the broad "word" (i.e. switch vs. ADM) while totally ignoring the identical functionality and capability associated with the word.

III. Other references: Claims 1-10,12-23,25-31,33-38,40-42

The appellant argued that, "...the other reference do not make up for the deficiencies of Chang'412...Chang'412 taken separately, or in combination with any another additional reference(s) for the reason set forth above..." in page 8, paragraph C (ii).

In response to appellant's argument, the examiner respectfully disagrees with the argument above.

In response to appellant argument, please see above responses.

(11) Related Proceeding(s) Appendix

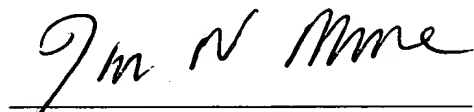
No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

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Conclusion

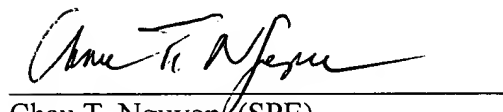
For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

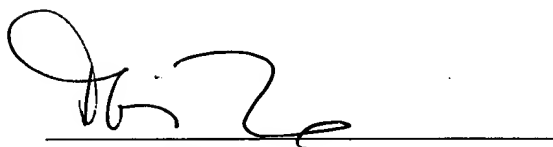


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April 2, 2007

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Creation date: 04-13-07
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